

In the Disclosure

On page 14 of the Application, please amend the paragraph starting at line 16 as follows:

Fig. 7 is an example of configuring and processing an event occurrence according to the event impact analysis mechanism as described herein. Referring to Figs. 8 and 3, an exemplary configuration 101 is shown, including a server X, switch Y, port Z, and fiber adapter A, all supporting an exemplary host 112-4. The configuration includes a plurality of manageable entity types-~~418~~, including hosts 118-1, servers 118-2, switches 118-3, ports 118-4, and fiber adapters 118-5, arranged in a hierarchical dependency, partially illustrated for space convenience. The actual “fan out” of an operational managed information network is likely to be substantial. The event mapping 134, such as a file or other storage medium, includes the mappings 134-1..134-3. The relations 136 include exemplary relations 136-1..136-5, as will now be discussed in further detail.

On page 9 of the Application, please amend the paragraph starting at line 20 as follows:

At a successive time, as a result of registration, the server 120 receives an indication of an event affecting a registered manageable entity 112, as shown at step 203. Accordingly, the server invokes the rule engine 124 to traverse the relations 136 and determining, by mapping the determined relations, other manageable entities 112 affected by the received event, as show in step 204. The rule engine 124 therefore identifies the manageable entities 112 affected by the occurrence triggering the event. Typically, such indirectly affected manageable entities 112 are upstream entities dependent on the event-producing manageable entity for generating throughput, such as a host 112-3 receiving a data stream via a fiber adaptor. The rule engine 124 employs the relations to determine and map the indirect effect of such events, by traversing the relations 136, as will now be described further.

On page 13 of the Application, please amend the paragraph starting at line 1 as follows:

Following initialization and storage of the events mapping 134 and the relations 136 based on the configuration file 132, the server 120 receives events on behalf of the rule engine. Accordingly, at step 308, the server 120 receives an indication of an event affecting a registered manageable entity 112, and determines, via the relations 136, other manageable entities 112 indirectly affected by the received event 114, as depicted at step 309. Determination of the affected manageable entities 112 includes traversing a mapping of events 134 and affected manageable entities 112, as depicted at step ~~311~~310, and matching the received event 114 to the mapping of events and affected manageable entities 112, thereby providing one or more manageable entities 112 affected by the event 114, as shown at step ~~312~~311. Note that multiple manageable entities 112 may be listed in the events mapping 134 as directly affected by a particular event, and the manageable entities 112 affected subsequently increases after mapping the impact into the relations 136. The rule engine then employs the directly affected manageable entity 112 to traverse the relations 136 using the manageable entity corresponding to the matching event to determine affected manageable entities, as depicted at step 312.

On page 16 of the Application, please amend the paragraph starting at line 3 as follows:

Those skilled in the art should readily appreciate that the programs and methods for event impact analysis and reporting as defined herein are deliverable to a processing device in many forms, including but not limited to a) information permanently stored on non-writeable storage media such as ROM devices, b) information alterably stored on writeable storage media such as floppy disks, magnetic tapes, CDs, RAM devices, and other magnetic and optical media, ~~or c) information conveyed to a computer through communication media,~~

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~~for example using baseband signaling or broadband signaling techniques, as in an electronic network such as the Internet or telephone modem lines.~~ The operations and methods may be implemented in a software executable object or as a set of instructions embedded in a carrier wave. Alternatively, the operations and methods disclosed herein may be embodied in whole or in part using hardware components, such as Application Specific Integrated Circuits (ASICs), state machines, controllers or other hardware components or devices, or a combination of hardware, software, and firmware components.

On page 5 of the Application, please amend the paragraph starting at line 14 as follows:

The invention as disclosed above is described as implemented on a computer having a processor, memory, and interface operable for performing the steps and methods for monitoring and processing timer events in an information services network system as disclosed herein. Other embodiments of the invention include a computerized device such as a computer system, central processing unit, microprocessor, controller, electronic circuit, application-specific integrated circuit, or other hardware device configured to process all of the method operations disclosed herein as embodiments of the invention. In such embodiments, the computerized device includes an interface (e.g., for receiving data or more segments of code of a program), a memory (e.g., any type of computer readable medium), a processor and an interconnection mechanism connecting the interface, the processor and the memory. In such embodiments, the memory system is encoded with an application having components that when performed on the processor, produces a process or processes that causes the computerized device to perform any and/or all of the method embodiments, steps and operations explained herein as embodiments of the invention to allow execution of instructions in a computer program such as a ~~Java~~JAVA™, HTML, XML, C, or C++ application. In other words, a computer, processor or other

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electronic device that is programmed to operate embodiments of the invention as explained herein is itself considered an embodiment of the invention.

On page 15 of the Application, please amend the paragraph starting at line 13 as follows:

The relations and events, in the particular exemplary arrangement, take the form of a service model structure, operable to be codified as a data structure and instantiated as an object according to an implementation language such as C++, XML, ~~Java~~JAVA™, and others as is known to those of skill in the art. The indication of affected entities 144 sent from the server 120 to the SIM manager 140 takes the form of the service model. The service model as described herein is further operable to store the event mapping 134 and the relations 136, in whole or in portions corresponding to particular manageable entities, for processing in the rule engine 124. Further the service model data and/or portions thereof are operable for storage in the ME database for storing the event mapping 134 and the relations 136 data, as described above.

On page 10 of the Application, please amend the paragraph starting at line 3 as follows:

Fig. 3 is a block diagram of the server 120 in the exemplary managed information environment 100 operable according to the system of the present invention. Referring to Fig. 3, the exemplary environment 100 is a storage area network environment and the exemplary server 120 is an ECC (~~EMC Control Center~~CONTROL CENTER™) server, marketed commercially by EMC ~~Corporation~~Corporation of Hopkinton, MA), in communication with the SAN 110. The ECC server includes the rule engine 124 and an adaptor 160. The adaptor 160 provides an application specific interface to the SIM manager 140 and is operable to provide the IT/Business process interface 142. The adaptor 160 further includes a cache 162 and a network services module 164 for identifying relations as will now be discussed in greater detail. The manageable entity DB

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130 includes the configuration file 132, an event mapping 134, and a set of relations 136. Briefly, the configuration file identifies the manageable entities 112 (objects) of interest, the types of events 114 to be reported, and whether direct and/or indirect events 114 are sought. The event mapping 134 identifies events 114 which affect a particular manageable entity 112, and the relations 136 identify which manageable entities 112 have an effect on other manageable entities 112.

On page 15 of the Application, please amend the paragraph starting at line 28 as follows

The event impact analysis and reporting mechanism disclosed herein may encompass a variety of alternate deployment environments. In a particular configuration, as indicated above, the exemplary SAN management application discussed may be the EMC ~~Control Center~~ CONTROL CENTER™ (ECC) application, marketed commercially by EMC ~~corporation~~ Corporation of Hopkinton, MA, assignee of the present application.